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NRC FOR OIP - DOANE; SCHWARTZMAN  
DOE FOR S-1, NA-20-DAGASTINO;  
NA-243-GOOREVICH, OEHLBERT;  
NA-241 O'CONNOR; NA-21- CUMMINS;  
NSC FOR HOLGATE, SCHEINMAN

E.O. 12958: N/A

TAGS: [AORC](#) [KNNP](#) [IAEA](#) [ENRG](#) [TRGY](#)

SUBJECT: IAEA/General Conference: NRC Meetings with IAEA staff and  
Side Meetings

¶1. (U) SUMMARY: From September 14-17, 2009, U.S. Nuclear Regulatory Commission Chairman Gregory B. Jaczko participated in the IAEA General Conference in Vienna, Austria. During the week, he conducted 20 bilateral meetings with foreign regulatory counterparts and members of the IAEA Secretariat. He also served as Chairman of the Senior Regulators Meeting on September 17. In addition, Chairman Jaczko attended several bilateral meetings conducted by Energy Secretary Steven Chu, reported septel. Chairman Jaczko was accompanied by R. W. Borchardt, Executive Director for Operations; Margaret M. Doane, Director, Office of International Programs; Angela Coggins, Policy Director, Office of the Chairman; Scott Moore, Deputy Director, Office of International Programs; and Jennifer Schwartzman and Elizabeth Smirolto, Office of International Programs. Heather Astwood, the Nuclear Safety Attache at the U.S. Mission in Vienna, also provided support to the delegation. Chairman Jaczko, Bill Borchardt and Margaret Doane participated in a roundtable discussion with senior-level U.S. government and industry representatives, organized by the Department of Commerce on September 14.

¶2. (U) During his bilateral meetings, Chairman Jaczko consistently emphasized the importance of a strong senior regulatory presence at the General Conference, integrated into the activities of the conference itself in close coordination with other government agencies. He also noted radioactive source safety and security is a particularly important issue to him. In addition, he stressed that close attention must be paid to the existing fleet of operating reactors worldwide even as much of the global focus turns toward new reactor designs and new nuclear power programs.

¶3. (U) Part 1 of this cable series covers bilateral meetings with senior IAEA officials and DG-designate Amano, the Senior Regulators meeting, and side-meetings at the IAEA General Conference. Part 2 septel covers bilats with the following countries: France, Canada, Sweden, China, Spain, India, Pakistan, Japan, Argentina, Hungary, Netherlands, Brazil, Slovenia, Kazakhstan, Romania, and Greece. END SUMMARY.

DG-DESIGNATE

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¶4. (SBU) Chairman Jaczko met with IAEA Director General Yukiya Amano, whose appointment was approved on the first day of the 2009

IAEA General Conference. The Chairman noted that NRC wants to assist the IAEA in promoting safety, particularly in light of approximately 80 potential new entrants that have expressed interest in establishing nuclear power programs. Referring to his Japanese regulatory experience, Ambassador Amano responded that while Safety, Security, and Safeguards (the "3 S's") have been emphasized by Japan in international fora, developing countries are concerned that these standards will be used to bar their access to nuclear power. Amano noted that Japan, in fact, intends the opposite - following the "3 S's" would be the only way to sustain a nuclear program. Building a nuclear program is a huge investment on many levels, and therefore it would be particularly important to do so correctly and safely. Referring to the IAEA Developing Nations Program, he stated that the program was "very good," as it emphasized the long-term obligation involved with nuclear power. Ultimately, there is no advantage to a country financially if a reactor only operates for 10 years. In order to operate long-term given potential risks that inherently exacerbate over time, the 3 S's must be in place.

15. (SBU) Chairman Jaczko discussed the status of the U.S. nuclear power program, focusing on the prospect for new plants, the situation regarding Yucca Mountain, and radioactive source security.

DG-designate Amano highlighted his interest in nuclear waste issues, and stated that with regard to fuel assurances, both long-term and immediate waste issues require attention. Japan, for instance, is small in size; and historically, there has been enthusiasm for reprocessing in order to move spent fuel out of local communities. Members of these communities do not want it to stay there forever. DG-designate Amano asserted that IAEA has a role to play in the back-end of the fuel cycle.

16. (SBU) DG-designate Amano highlighted that one of the first, and most important, matters to be handled by his new administration will be IAEA support to the Nuclear Security Summit to be held in the United States in the spring of 2010. He added that he had already spoken to DDG Taniguchi and Anita Nilsson, Head of the Office of Nuclear Security, about the IAEA's role in the Summit. Chairman Jaczko noted that while fissile material will be covered at the Summit, radioactive sources will not, but should be at some other time. Mr. Amano agreed, noting that not all issues can be addressed during that forum; however, it remains important to continue to work on radioactive sources and to improve security. Chairman Jaczko added that the upcoming Senior Regulators meeting in South Africa would be a good opportunity to stress regulatory and safety issues.

DDG TANIGUCHI

17. (SBU) Chairman Jaczko met with Tomihiro Taniguchi, Deputy Director General of the IAEA Department of Nuclear Safety and Security. DDG Taniguchi was accompanied by Philippe Jamet, George Philip, Didier Louvat, and Warren Stern of his staff. He began by inquiring about the spring 2010 Nuclear Security Summit. He noted that the Summit's scope only includes fissile materials but emphasized that the security issue is much broader, including radioactive sources, and that a Summit-level message on sources would be very significant in raising worldwide awareness of this issue. Chairman Jaczko agreed that radioactive source security is an important area but explained his understanding that the Summit's scope is limited to fissile material in order to ensure its success.

He noted that the source issue could be addressed in detail at the upcoming IAEA Conference on Effective Regulatory Systems, which he will chair in South Africa in December.

18. (SBU) Chairman Jaczko advocated that there should be a greater, more integrated regulatory presence at the General Conference. In particular, he suggested that the Senior Regulators Meeting be moved to the beginning of the week to encourage Senior Regulators to attend and participate with the rest of their delegations in other events at the Conference. Taniguchi agreed as to the importance of raising awareness of regulatory issues but noted that it would be difficult to hold the Senior Regulators Meeting and Scientific Forum in parallel because many small countries only send one or two people to the Conference.

19. (SBU) Taniguchi also raised several topics that were not discussed in detail, including: technical and scientific support organizations; cooperation on research reactor issues; medical

isotope supply; denial of shipments and international transport arrangements; environmental issues, including mining; and emergency preparedness. In the environmental area, he noted that Norway had requested the establishment of a network on regulatory supervision for environmental issues.

DDG SOKOLOV

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¶10. (SBU) On September 15, Chairman Jaczko met with Yury Sokolov, Deputy Director General for the IAEA Department of Nuclear Energy. The DDG was accompanied by Akira Omoto, Hans Forsstrom, Anne Starz, Alan McDonald, and Atambir Singh Rao of his staff. The DDG began by noting the significant impact regulatory issues have on nuclear power development. Chairman Jaczko emphasized the importance of the regulator in the development process. DDG Sokolov agreed but indicated that he was troubled by the notion of a regulatory safety culture as a prerequisite for any nuclear power program. His rationale was that it is impossible to develop a robust safety culture without an understanding of how it is put into practice. The DDG also noted that a significant number of Member States (between 60 and 80) have approached the Agency seeking assistance in developing or enhancing a nuclear program. Chairman Jaczko noted that the NRC was also experiencing a surge in assistance requests and both agreed to the importance of coordination between the NRC, other national agencies, and the IAEA in assuring that countries get the guidance they need. The DDG noted his interest in how regulatory approaches have evolved over time and how they may inform the nuclear development process. In particular, he stated that the IAEA would benefit from learning more about NRC's vision on

regulating advanced technologies, and how safety assessments will be modified to accommodate them. Chairman Jaczko raised probabilistic risk assessment as an area the NRC examines on a consistent basis in order to assess if the safety margins contained in U.S. nuclear safety regulations are appropriate.

¶11. (SBU) Mr. Omoto raised the issue of technology-neutral standards and noted that, while INPRO had done a good deal of work in that direction, the Department of Nuclear Safety and Security seemed to be moving away from this in its standards development. He also suggested that the resources of professional nuclear societies should be engaged to a greater extent to assist new entrants. Chairman Jaczko stated that the United States was moving forward with a technology-neutral framework but noted that in some areas, specifically approaches to severe accidents, some work must be technology-specific. Mr. Borchardt noted that industry had developed utility requirements documentation for Generation III reactors and a similar document for Generation IV technology would be very useful. Chairman Jaczko and the DDG also discussed small- and medium-sized reactors. Chairman Jaczko noted that there is a great deal of international interest in having NRC certify these designs but it was not clear if they would be built in the United States. He also noted that it is important that the designs become more standardized; currently, there are at least four different designs. DDG Sokolov inquired about whether a specific approach was required, and if the timing was right, for licensing non-stationary reactors. Chairman Jaczko stated that accident analysis information is likely captured in existing regulations but that other areas, in particular environmental siting, would present a problem because a reactor could be placed in a variety of locations.

¶12. (SBU) Finally, the Chairman and DDG discussed the current status of Yucca Mountain. The DDG noted that the Administration's potential plans to cancel the program send a negative signal to the international community. They agreed that work must continue to address the issue of long-term storage of nuclear waste. Chairman Jaczko noted that for smaller countries, particularly new entrants, the solution may need to be regional. He emphasized that countries must look beyond geological repositories as the only solution.

DDG WALLER

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¶13. (SBU) Chairman Jaczko met with David Waller, Deputy Director General for the IAEA's Department of Management. DDG Waller was accompanied by Catherine Monzel, Head of Recruitment and Staff Development. The main focus of the discussion was increasing American citizen representation in regular-budget positions at the IAEA, particularly in the Department of Nuclear Safety and Security.

Chairman Jaczko stated that the NRC has a wealth of talented staff who could provide significant expertise to the IAEA, but have not been successful in securing positions. He inquired about whether there was a strategy for making American candidates more competitive. Ms. Monzel indicated that there are approximately 100 positions open at IAEA each year, for which the Agency receives roughly 15,000 applications. The DDG noted that qualified women have a significant chance of being selected. Ms. Monzel noted that many American candidates lack the international experience of their foreign counterparts, which can be a detriment in the selection process. The DDG recommended that NRC staff seek to obtain P4 and P5-level positions. Chairman Jaczko also inquired about the selection process for new DDGs and emphasized that DDG Taniguchi's replacement should be a regulator with safety and security experience.

DDG HEINONEN

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¶14. (SBU) Chairman Jaczko met with Olli Heinonen, Deputy Director General of the Department of Safeguards. They discussed safeguards inspections, the Additional Protocol, U.S. fuel facilities, and human resource challenges. DDG Heinonen noted that the number of inspections has fallen in recent years with the introduction of integrated safeguards and remote monitoring, but he expects an uptick as more reprocessing and other facilities begin operating worldwide. He noted that an inspection of the Louisiana Energy

Services enrichment facility in New Mexico would not fall under IAEA's regular budget. He also noted that there is a great deal of debate on whether the IAEA should conduct safeguards inspections in Nuclear Weapons States (NWS); many developing countries argue against it because of the cost. Heinonen observed that these types of inspections would only account for 3-4 percent of the total cost (approximately \$5 million USD per year). He stated that there had been some discussion about creating a fund for NWS inspections. Chairman Jaczko noted that he would be pleased to discuss LES and other facilities under NRC jurisdiction in greater detail. He added that the NRC coordinates with the Department of Energy on safeguards issues. Finally, DDG Heinonen noted that many safeguards inspectors are retiring and need to be replaced, and there are not many U.S. experts applying for the positions. He noted that there are many qualified experts in the United States, both safeguards and safety inspectors, who would provide tremendous benefit to the Agency in developing an "inspection culture." Chairman Jaczko indicated that he would take this message back to NRC and encourage qualified Americans to apply for these positions.

DDG CETTO

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¶15. (SBU) Chairman Jaczko met with Ana Maria Cetto, Deputy Director General for Technical Cooperation. She was accompanied by Manuel Recio, Director of TC Europe. The discussion focused on the safety and security of radioactive sources. DDG Cetto expressed her appreciation for NRC's recent contributions of funding and technical experts to assist in various TC regional projects in this area. Mr. Recio noted that, often, technical expertise is more necessary than funding and he appreciated the fact that the NRC funding did not come with conditions that would inhibit TC from using it to pay for regional experts. DDG Cetto noted that in the past five years, there has been an increased awareness of the importance of source-related work and countries are more willing to discuss this than in the past. Chairman Jaczko expressed his personal commitment to source safety and security and his desire to cooperate more closely with TC, perhaps considering provision of a cost-free expert in the future. Mr. Recio noted that the regional program in Europe has taken on a new direction in recent years because of the interest in new nuclear power in the region. DDG Cetto noted that there are also other areas on which TC is providing training and assistance to Member States, including public participation, advanced regulatory issues such as performance indicators, and self-training. In the new reactors area, Cetto specifically mentioned Kazakhstan, Indonesia, Vietnam and Turkey as countries that are serious about developing nuclear power. She noted that prioritizing assistance requests is a challenge because not all countries are equally serious or prepared. She also noted that regional networks are an extremely effective tool in training experts and empowering countries. TC is encouraging countries to work together as they embark on training programs.



## SENIOR REGULATORS MEETING

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¶16. (U) On September 17, Chairman Jaczko served as Chairman of the Senior Regulators Meeting, an annual forum on the margins of the General Conference at which heads of nuclear regulatory bodies from around the world gather to discuss a series of nuclear safety and security topics. This year, the agenda included a discussion on providing support to countries interested in developing nuclear power programs and one on strategies for long-term management of disused radioactive sources. Each session consisted of several presentations followed by a panel discussion. Chairman Jaczko and Safety DDG Taniguchi delivered opening remarks at the beginning of the meeting. DDG Taniguchi's statement cautioned against an attitude of complacency toward nuclear safety, noting that an accident anywhere in the world would have far-reaching consequences. Chairman Jaczko's statement emphasized his personal interest in the issue of radioactive source safety and security as well as the importance of a strong, effective regulatory body as an essential component of any new nuclear power program.

## REGULATORY EFFECTIVENESS CONFERENCE PLANNING MEETING

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¶17. (U) Chairman Jaczko will serve as Chairman of an IAEA Conference on Effective Nuclear Safety and Security Regulatory Systems in Cape Town, South Africa in December 2009. On September 16, he met with members of the IAEA Secretariat including DDG Taniguchi, as well as the Vice Chairmen of the conference, Guy Clapisson of South Africa and Valery Bezzubtsev of Russia, to discuss the status of plans for the conference. The discussion covered the various agenda topics, goals for each session, confirmed speakers, and the drafting of a summary report.

## SIDE MEETINGS: INFRASTRUCTURE DEVELOPMENT

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¶18. (SBU) NRC staff participated in several topical meetings, organized by country counterparts and IAEA Departments, on the margins of the General Conference. A roundtable discussion on "Infrastructure for New Nuclear Power Programmes", organized by the IAEA and co-sponsored by Canada, China, France, Japan, Republic of Korea, India, Russia, and the United States, was held September 14. Its objective was to invite countries introducing nuclear power to share their experiences and discuss improved international cooperation, highlighting perspectives from countries in different regions and experiences at various stages of the process. The meeting was chaired by S.K. Sharma, Chairman of the Atomic Energy Regulatory Board of India, and included presentations by officials from IAEA, Jordan, Egypt, Vietnam, and Chile. Of particular note, Vietnam was represented by its regulatory agency, the Vietnam Agency for Radiation and Nuclear Safety.

## SIDE MEETINGS: ITDB

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¶19. (SBU) NRC staff also participated in an IAEA-led briefing on the Illicit Trafficking Data Base (ITDB). Viacheslav Turlain of IAEA's Office of Nuclear Security (ONS) provided a general presentation to attendees on the operations, capabilities, reporting practices, and data in the ITDB. Turlain mentioned 338 incidents involving illegal possession of nuclear or radiological materials during the period 1993 to 2009, including some cases of attempted malicious use and attempts to acquire such material for such purposes. The database also has records of 11 incidents involving High Enriched Uranium (HEU). He described three "Groups" of incidents in which IAEA is classifying the incidents reported to IAEA: Group 1, Unauthorized possession and related criminal activities; Group 2, Thefts and losses; and Group 3, Other unauthorized activities. Turlain concluded that despite a reduction of reports over the past few years, the ITDB shows persistent problems with security and recovery of materials. He stressed the importance of security of nuclear materials, including HEU, security of radioactive sources, and recovery of lost/stolen sources. He also noted that the ITDB has gaps in accounting for stolen materials, indicating that possibly more materials (than IAEA knows of) may have been stolen. Following the briefing, NRC staff held side discussions with the IAEA Section Head with responsibilities for the ITDB, and two of his staff, on these issues. (Comment: For NRC, much of this information is not new. For more than two years, NRC and the Department of State on the

have been discussing the ITDB, how data is reported to it and how IAEA analyzes the data. NRC will propose suggestions for a name change to the database, to better reflect the data that is collected, and will provide comments on the ITDB's proposed "significance scale". End Comment.)

#### SIDE MEETINGS: URANIUM MINING

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¶20. (SBU) Australian Ambassador Michael Potts chaired a roundtable meeting entitled, "Uranium Production -- Prospects and Challenges." Mr. Hans Forsstroem, Director of the IAEA Division of Nuclear Fuel Cycle and Waste Technology, provided opening remarks. Mr. Jan Slezak of the same division followed with information on trends in uranium supply and demand. Notably, he described the differences between production and reality. Price increases historically have been triggered by new exploration; however, according to Mr. Slezak, the present need for uranium does not justify increased production. This situation will probably change in the future, but limitations such as a volatile market, public acceptance of new mines, and over- or under-regulated systems could impact future prospects. Mr. John

Borshoff, Managing Director and CEO of the Australian firm Paladin Energy Ltd. provided an industry perspective on uranium production. He highlighted his company's work in Africa, which includes the first new conventional uranium mines in 25 years located in Namibia and Malawi, asserting that "Africa is at the leading edge of extraction practice." Citing differences between the two countries, he noted that Namibia has a mining culture and relatively strong regulatory framework, while Malawi has almost nothing. The four year production outlook for Paladin is continued growth and expansion. According to Borshoff, by not accepting formerly conventional wisdom that uranium is a dying field, Paladin has established itself as a world leader in uranium production. Benefitting Paladin have been social changes such as a decline in the number of anti-nuclear protesters. Borshoff cited that despite his company's success, there is a 30 percent failure rate in the uranium mining industry due to lack of experience and instability in pricing. Other industry challenges include the global migration of workers, difficulty in finding skilled workers, transport issues in landlocked countries, dealing with nongovernmental organizations, and the need for a strong, unified regulatory framework that covers the entire life of the mine (including closure). He predicts more, even aggressive, production levels in the near future.

¶21. (U) Joseph Iita, Permanent Secretary of the Ministry of Mines and Energy of Namibia, gave a candid presentation on how the tremendous increase in uranium mining has affected his country. While the mines employ a significant number of people, so many mining applications have been submitted that his Ministry finally, literally, declared a moratorium. The government of Namibia is considering building a nuclear power plant, possibly for water desalination purposes. On the other hand, when uranium production increases, water utilization increases. There is a regulatory framework, and Namibia practices sound export control and complies with the NPT, but Mr. Iita stated that "the fewer exploration licenses given, the better." For new countries seeking to enter the uranium business, Iita stressed the importance of considering the impact on the environment, and also on relationships with other countries. The last speaker was Dr. Geoff Shaw, Assistant Secretary of the Australian Safeguards and Nonproliferation Office, who spoke on Australia's experience with uranium production and safeguards. Dr. Shaw highlighted how Australia as the third largest uranium producer in the world complies with its international safeguards obligations. The discussion covered relevant areas such as reporting, export controls, compliance with the IAEA Additional Protocol, Complimentary Access to its mines over a 12 year period, physical protection, and other topics. Uranium is a strategic commodity for Australia; hence the country takes compliance very seriously. Mr. Didier Louvat, Section Head of IAEA's Waste and Environmental Safety Section, provided closing remarks, as did Ambassador Potts. Ambassador Potts' remarks included the announcement that IAEA had established an electronic virtual network designed to help those in the uranium production field stay in touch and share information, and invited roundtable attendees to provide their contact information in order to participate.

#### SIDE MEETINGS: GEOLOGICAL REPOSITORIES

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¶22. (U) Ms. Ann-Louise Eksborg, Director General for the Swedish Radiation Safety Authority (SSM), chaired a roundtable meeting entitled, "Licensing of Geological Repositories." Speakers included Mr. Tero Varjoranta, Director, Nuclear Waste and Materials Regulation, Finnish Radiation and Nuclear Safety Authority (STUK); Ms. Geraldine Danclieux, of the Autorite de Surete Nucleaire (ASN) of France; Mr. Carl-Magnus Larsson, Director, Department of Radioactive Materials, SSM, in Sweden; and Mr. William Borchardt, EDO of NRC. Each of the speakers described his or her country's experience in licensing (or attempting to license) a geological repository. Mr. Varjoranta of STUK described the licensing process undertaken in Finland, which has resulted in the Onkalo repository, currently under construction in Olkiluoto, Finland (where the first EPR reactor is now being built). The repository is being constructed in bedrock granite; in addition to favourable geological conditions, Finland's seismology is also advantageous. Waste will ultimately be stored in large canisters of nearly pure copper. The

French, according to Danclieux of ASN, are currently pursuing a license for a repository, and are particularly interested in a "reversal" system, featuring five layers of reversibility. She said closure of the eventual repository, although far off in the future, will also be considered. The French National Radioactive Waste Agency (ANDRA) has performed feasibility studies, and a legislative framework has been established. In June 2006, studies focusing on complementary forms of disposal were also conducted. As France continues with the licensing process, ANS will be involved in the ongoing international dialogue on regulatory issues surrounding geological repository development.

¶23. (U) Mr. Larsson of SSM explained the licensing process in Sweden, in which three applications have been received as part of its licensee's (SKB's) spent fuel programs. One was for an encapsulation plant, one was for a spent fuel repository, and the third was for System SBS-3 Environmental Control. A facility in Oskarshamn known as the Aspo Hard Rock Laboratory was built to study the regional geology, and research on many aspects of storage have been conducted at the nearby Canister Laboratory (copper canisters with lids held in place through friction stir welding techniques have emerged as the preferred canisters). In July 2009, a repository site at Oskarshamn was selected over Forsmark for the new spent fuel repository based on its more favorable geology. Peer reviews (IAEA, NEA), broad external reviews, etc., have helped Sweden achieve its objectives. Also, as Sweden and Finland have similar geological characteristics, the countries collaborate.

¶24. (U) Mr. Borchardt then provided the U.S. perspective on the licensing process, attesting that the U.S. Department of Energy's June 2008 license application for the Yucca Mountain Repository could not move forward based on a government decision not to support the project. Borchardt touched upon the political aspects of the decision, noting that Congress would decide how many activities related to Yucca Mountain would continue. The NRC has received separate funding for this and other waste-related matters; but it is clear that changes are on the horizon. After the speakers completed their presentations, members of the audience posed questions. These focused on how siting is accomplished (including the scientific as well as political aspects); how dose limits for areas surrounding the proposed repository were determined in the U.S.; and how chemical conditions impact siting decisions.

DAVIES